<u>**Amendments to the Specification:**</u>

Please replace paragraph beginning on page 7, paragraph 15 with the following amended paragraph:

The chart depicts a two dimensional graph, an x-axis 104 and a y-axis 102 that depict an operating voltage of the processor and a bus ratio of the processor, respectively. In one embodiment, the bus ratio is defined as the processor's core frequency divided by a bus frequency. In the same embodiment, the chart depicts defining an operating range 106 when the thermal monitor mechanism is enabled, such as, in one embodiment, in the event of a thermal issue when the thermal sensor indicates the temperature of the integrated device meets or exceeds a predetermined threshold. Therefore, the chart depicts an operating range 106 at a predetermined first voltage, $\underline{V_{TM2}}$, for the processor when the thermal monitor is enabled; otherwise, the processor is allowed to operate in a range defined as between [[0]] $\underline{V_{MIN}}$ and Vmax for the voltage and Min Ratio to a Maximum Bus Ratio (Max Ratio). In the same embodiment, the Maximum Bus Ratio and the predetermined first voltage are determined during manufacturing test. Likewise, the predetermined first voltage for the operating range 106 is stored in a plurality of fuses. A ratio offset 108 will be described in further detail in connection with FIG. 2.


Please replace paragraph beginning on page 8, paragraph 18 with the following amended paragraph:

Therefore, the claimed subject matter facilitates a thermal monitor mechanism to minimize performance impact as the operating voltage and frequency are lowered to accommodate the thermal event. As described earlier, the claimed subject matter determines the the predetermined first voltage, which is the lowest voltage that is required for the processor to operate at the frequency utilized in response to a thermal issue. Subsequently, the operating range is defined and one may select a frequency between Min Ratio and Max <u>TM2</u> ratio based at least in part on the amount of power reduction that is needed. For example, if the thermal monitor is enabled, one may select an operating frequency that has the smallest amount of power reduction in response to the predetermined condition while having the best performance. In contrast, one may

select an operating frequency of Min ratio that has the most amount of power reduction in response to the predetermined condition while having the worst performance.

Please replace paragraph beginning on page 9, paragraph 20 with the following amended paragraph:

Consequently, the offsets for all the supported bus frequencies are programmed into the CPU. In the event of a processor reset or startup, the multiplexer 205 selects one of the programmed offsets 202 based on the bus frequency 204. Subsequently, the offset 206 is subtracted from the startup bus ratio 208 to determine an operating range bus ratio, 210, to be utilized by the processor when the thermal monitor is active (referred to as TM2). However, if this operating range bus ratio (TM2) is less than the minimum supported bus ratio, the thermal monitor mode is disabled.